Description of the project:

At IVT a large-scale agent-based traffic simulation of Switzerland and Zurich is available. It is based on the traffic simulation framework MATSim, which is a joint development of ETH Zurich and TU Berlin. In this simulation, millions of agents move time step by time step through a capacitated network. This also means that agents may end up in traffic jams, just as in reality. Based on these experiences and individual preferences, agents may change their daily travel routes, departure times or modes of transport to avoid congestion iteratively.

What is currently not available in these simulations are mobility patterns of tourists and travelers through airports. As the number of non-local travelers in all countries is constantly increasing, it has become important to model tourist and business travellers mobility patterns. The focus of this project is therefore to look at mobility patterns of non-local population in Switzerland.

The student work will consist of:
- A literature review on modeling behavior of non-local travelers
- Modeling travel behavior of non-locals using a multi-agent approach
- Analysis and reporting

Additional remarks: Programming experience in Java, Python, R or similar is recommended.

Minimal amount of work: 8/9/10 or 24 KP

Recommended Lectures: